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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/870,496 | 06/01/2001 | Tetsuya Nakashima | 209128US0 | 8803 |

22850 7590 08/16/2002
OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT PC
FOURTH FLOOR
1755 JEFFERSON DAVIS HIGHWAY
ARLINGTON, VA 22202

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| EXAMINER |
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BOLDEN, ELIZABETH A

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| ART UNIT | PAPER NUMBER |
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1755

DATE MAILED: 08/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/870,496

Applicant(s)

NAKASHIMA ET AL.

Examiner

Elizabeth A. Bolden

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1-15 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kohli et al., U.S. Patent 5,854,152.

Kohli et al. disclose a glass composition comprising, in weight percent, 38-56 SiO₂, 10-28 Al₂O₃, 0-4 Li₂O, 0-6 Na₂O, 0-15 K₂O, 4-18 CaO, 0-5 MgO, more than 8 to 24 SrO, and 0-2 ZrO₂. See abstract of Kohli et al. Table I, examples 1 and 7 meet all the compositional limitations of claims 1-15.

Examples 1 and 7 show thermal expansion coefficients of 81.8 and 89.9x10⁻⁷/°C, this meets the limitations of claim 7.

While examples 1 and 7 do not disclose a T_g, they do disclose a strain points above 643°C and an annealing points above 690 °C. The T_g of a glass is between the annealing point and the strain points of a glass, see Vogel, page 30, lines 18-33 and page 31, lines 5-8, therefore, examples 1 and 7 meet the limitations of claim 8.

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Since the composition of the reference is the same as those claimed herein it follows that the glasses of Kohli et al. would inherently have the same properties as recited in claims 9-15.

See MPEP 2112.

Claims 1-8 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Clifford, U.S. Patent 5,304,516.

Clifford discloses a glaze composition comprising, in weight percent, 45-75 SiO₂, 0.1 to less than 5 Bi₂O₃, 0.1-20 Al₂O₃, 2-20 B₂O₃, 2-22 of at least one of CaO, MgO, SrO, BaO, or ZnO, 1-10 of at least one of Li₂O, Na₂O, or K₂O, 0.1-10 of at least one of La₂O₃, MoO₃, WO₃, and other optional components. See abstract of Clifford and column 4, lines 53-67. The ranges of Clifford are sufficiently specific to anticipate the compositional limitations recited in claims 1-8. See MPEP 2131.03. The reference specifically discloses in Table 3, example 3 a composition that meets all the limitations of claims 1-7.

Since the composition of the reference is the same as those claimed herein it follows that, the glazes of Clifford would inherently have the same glass transition temperature (T_g) as recited in claim 8. See MPEP 2112.

Claims 1-7 claim "a glass for substrate", "for substrate" is an intended use and does not show a structural difference. Therefore, "for substrate" is not a limitation of the claims. See MPEP 2111.02.

Claims 1-15 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Brix et al., U.S. Patent 6,087,284.

Brix et al. disclose a glass composition comprising, in weight percent, 45-68 SiO₂, >5-18 Al₂O₃, 0-5 Na₂O, >9-15 K₂O, 0-10 CaO, 0.5-18 SrO, 0-10 BaO, 0.2-5 TiO₂, and 1-6 ZrO₂. See abstract of Brix et al. The ranges of Brix et al. are sufficiently specific to anticipate the compositional limitations recited in claims 1-15. See MPEP 2131.03.

Brix et al. disclose that the glasses have a thermal expansion coefficient of between 81 and 90 10⁻⁶/K, a transition temperature greater than 650°C, and have good devitrification stability and chemical resistance. See column 6, lines 6-15. These properties meet the further limitations of claims 7-8.

Since the composition of the reference is the same as those claimed herein it follows that the glasses of Brix et al. would inherently have the same properties as recited in claims 9-15. See MPEP 2112.

Claims 1-15 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Maeda et al., U.S. Patent 5,599,754.

Maeda et al. disclose a glass composition comprising, in weight percent, 52-62 SiO₂, 5-12 Al₂O₃, 0-4 MgO, 3-5.5 CaO, 6-9 SrO, 0-13 BaO, 7-14 Li₂O+Na₂O+K₂O, 0.2-6 ZrO₂, and 0-0.6 SO₃. See abstract of Maeda et al. The ranges of Maeda et al. are sufficiently specific to anticipate the compositional limitations recited in claims 1-15. See MPEP 2131.03.

Maeda et al. disclose that the glasses have a T_g of at least 600°C and a coefficient of thermal expansion in the range of 75x10⁻⁷ to 95x10⁻⁷/°C, which meets the limitations recited in claims 7 and 8. See column 3, lines 51-59.

Since the composition of the reference is the same as those claimed herein it follows that the glasses of Maeda et al. would inherently have the same properties as recited in claims 9-15. See MPEP 2112.

Claims 1-15 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Maeda et al., U.S. Patent 6,268,304.

Maeda et al. disclose a glass composition comprising, in mol percent, 50-75 SiO₂, 4-20 Al₂O₃, 0.5-10 B₂O₃, 2-15 MgO, 1-15 CaO, 0-6 SrO, 0-0.8 BaO, 2-13 Li₂O+Na₂O+K₂O, 2-7 K₂O, 0-5 ZrO₂, 0-8 TiO₂, 0-2 Y₂O₃, 0-2 Ta₂O₃, and 0-2 Nb₂O₅. See column 6, line 55 to column 7, line 9. The ranges of Maeda et al. are sufficiently specific to anticipate the compositional limitations recited in claims 1-15. See MPEP 2131.03.

Maeda et al. disclose that the glasses have a coefficient of thermal expansion in the range of 75×10^{-7} to $120 \times 10^{-7}/^{\circ}\text{C}$, which meets the limitation recited in claim 7. See column 3, lines 29-37.

Since the composition of the reference is the same as those claimed herein it follows that the glasses of Maeda et al. would inherently have the same properties as recited in claims 8-15. See MPEP 2112.

Claims 1-15 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Maeda et al., U.S. Patent 6,297,182.

Maeda et al. disclose a glass composition comprising, in wt percent, 45-65 SiO₂, 6-20 Al₂O₃, 0.5-6 B₂O₃, 2-5 MgO, 1-10 CaO, 0-6.5 SrO, 0-2 BaO, 7-15 Na₂O+K₂O, 0-7 ZrO₂. See

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abstract of Maeda et al. The ranges of Maeda et al. are sufficiently specific to anticipate the compositional limitations recited in claims 1-15. See MPEP 2131.03.

Maeda et al. disclose that the glasses have a T_g of at least 650°C and a coefficient of thermal expansion in the range of 75×10^{-7} to $120 \times 10^{-7}/^{\circ}\text{C}$, which meets the limitation recited in claims 7 and 8. See column 4, lines 42-50.

Since the composition of the reference is the same as those claimed herein it follows that the glasses of Maeda et al. would inherently have the same properties as recited in claims 9-15. See MPEP 2112.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-15 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 6,268,304. Although the conflicting claims are not identical, they are not patentably distinct from each other because the compositional ranges overlap. Overlapping ranges have been held to establish prima facie obviousness. See MPEP 2144.05.

Claims 1-15 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 of U.S. Patent No. 6,297,182. Although the conflicting claims are not identical, they are not patentably distinct from each other because the compositional ranges overlap. Overlapping ranges have been held to establish prima facie obviousness. See MPEP 2144.05.

Claims 1-15 are directed to an invention not patentably distinct from claims 1-9 of commonly assigned 6,268,304. Specifically, the compositional ranges overlap. Overlapping ranges have been held to establish prima facie obviousness. See MPEP 2144.05.

Claims 1-15 are directed to an invention not patentably distinct from claims 1-4 of commonly assigned 6,297,182. Specifically, the compositional ranges overlap. Overlapping ranges have been held to establish prima facie obviousness. See MPEP 2144.05.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP § 2302). Commonly assigned 6,268,304, and 6,297,182, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee is required under 37 CFR 1.78(c) and 35 U.S.C. 132 to either show that the

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conflicting inventions were commonly owned at the time the invention in this application was made or to name the prior inventor of the conflicting subject matter. Failure to comply with this requirement will result in a holding of abandonment of the application.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications filed on or after November 29, 1999.

Conclusion


The additional references cited on the 892 have been cited as art of interest since they are cumulative to or less than the art relied upon in the rejections above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth A. Bolden whose telephone number is 703-305-0124. The examiner can normally be reached on 8:30am to 6:00 pm with alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on 703-308-3823. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

EAB
August 14, 2002


DAVID SAMPLE
PRIMARY EXAMINER